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SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

APPLICATION OF SOUTHWESTERN § BEFORE THE STATE OFFICE
ELECTRIC POWER COMPANY FOR § OF
AUTHORITY TO CHANGE RATES § ADMINISTRATIVE HEARINGS

CROSS-REBUTTAL TESTIMONY AND ATTACHMENTS

OF

SCOTT NORWOOD

ON BEHALF OF

CITIES ADVOCATING REASONABLE DEREGULATION

APRIL 23, 2021

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TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
I. INTRODUCTION	2
II. IMPUTED CAPACITY COSTS FOR SWEPCO WIND ENERGY PURCHASE CONTRACTS.....	3

ATTACHMENTS

SN-CR-1 Excerpt from PUC S.R. 25.281
SN-CR-2 Forecast of Capacity Requirements from SWEPCO's 2019 IRP
SN-CR-3 Forecast of Market Capacity Prices from SWEPCO's 2019 IRP

WORKPAPERS

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I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, TITLE AND BUSINESS ADDRESS.

A. My name is Scott Norwood. I am President of Norwood Energy Consulting, L.L.C. My business address is P.O. Box 30197, Austin, Texas 78755-3197.

Q. HAVE YOU FILED TESTIMONY PREVIOUSLY IN THIS PROCEEDING?

A. Yes. I also filed direct testimony in this proceeding on March 31, 2021 on behalf of the Cities Advocating Reasonable Deregulation ("CARD"). A summary of my background and experience is included as Attachment SN-1 of my direct testimony.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS CASE?

A. The purpose of my testimony is to address CARD's concerns regarding Texas Industrial Energy Consumer's ("TIEC") witness Billie LaConte's recommendations regarding the determination of imputed capacity costs for SWEPCO's purchased power agreements supplied from wind energy facilities ("Wind PPAs"), and to explain why those recommendations overstate SWEPCO's forecast of market capacity costs over the next ten years, and therefore should be disallowed.

1
2 **II. IMPUTED CAPACITY COSTS FOR SWEPCO WIND ENERGY**
3 **PURCHASE CONTRACTS**

4 **Q. WHAT IS TIEC WITNESS LACONTE'S RECOMMENDATION REGARDING**
5 **IMPUTED CAPACITY COSTS FOR SWEPCO WIND ENERGY PURCHASE**
6 **AGREEMENTS.**

7 A. Ms. LaConte recommends that SWEPCO's base rates be increased by approximately \$2.3
8 million to include the estimated imputed capacity cost associated with four Wind PPAs,
9 which have a cumulative nameplate rating of approximately 470 MW.¹ Ms. LaConte's
10 proposed imputed capacity cost adjustment is based on applying an estimated imputed
11 capacity value of \$6.58/kW-month (\$78.96/kW-year) to the 79 MW accredited firm
12 capacity rating of SWEPCO's Wind PPAs.² This recommendation would result in a \$2.3
13 million (Texas Retail) increase in SWEPCO's base rates for imputed capacity.³

14 **Q. HOW DID WITNESS LACONTE DERIVE HER \$6.58/KW-MONTH IMPUTED**
15 **CAPACITY VALUE FOR SWEPCO'S WIND PPAS?**

16 A. Ms. LaConte's imputed capacity value is based on the \$80/kW-year avoided capacity cost
17 proxy, which is used by utilities to evaluate the cost-effectiveness of energy efficiency
18 programs, as specified by PUC Substantive Rule 25.281⁴, minus her estimate of ancillary
19 service costs (\$0.09/kW-month).

20 **Q. HAS THE METHOD USED BY MS. LACONTE FOR DETERMINING IMPUTED**
21 **CAPACITY COSTS FOR SWEPCO'S WIND PPAS PREVIOUSLY BEEN**
22 **ACCEPTED BY THE COMMISSION?**

23 A. No, not to my knowledge. Ms. LaConte's direct testimony states that the Commission has
24 adopted imputed capacity cost adjustments in several past cases and includes an excerpt
25 from testimony by El Paso Electric Company ("EPE") witness David Hawkins in PUC
26 Docket No. 44941, which she says "lays out the logic and methodology for identifying and
27 quantifying the amount of imputed capacity costs".⁵ However, the imputed capacity

¹ LaConte Direct, page 4.

² LaConte Direct, page 26.

³ LaConte Direct, page 26.

⁴ See Attachment SN-CR-1, Excerpt from PUC S.R. 25.281.

⁵ See LaConte Direct, page 25.

1 method proposed by EPE witness Hawkins cited by Ms. LaConte was not adopted or even
2 mentioned in the Commission's Final Order or Unanimous Stipulation in Docket No.
3 44941.⁶ Moreover, none of the other past cases cited by Ms. LaConte as support for her
4 imputed capacity recommendation addressed imputed capacity costs for wind energy
5 resources.⁷

6 **Q. IS TIEC WITNESS LACONTE'S IMPUTED CAPACITY PROPOSAL FOR**
7 **SWEPCO'S EXISTING WIND PPAS REASONABLE?**

8 A. Certain aspects of Ms. LaConte's imputed capacity cost proposal for SWEPCO's Wind
9 PPAs are reasonable. The concept of imputing capacity charges for wind energy PPAs and
10 recovering such amounts through base rates is not unreasonable, to the extent the imputed
11 costs are reasonably quantified, consistently and equitably allocated to customers, and
12 reasonably reflective of costs and benefits of wind energy resources. Moreover, Ms.
13 LaConte's recommendation to use the SPP's accredited capacity rating of SWEPCO's
14 Wind PPAs (79 MW) as the basis for calculating the imputed capacity value of the
15 resources, and her recommendation to remove the resultant imputed capacity value from
16 reconcilable fuel expense effective with the date imputed capacity costs are reflected in
17 base rates, are reasonable.

18 However, although Ms. LaConte suggests that her \$6.58/kW-month imputed capacity
19 adjustment reasonably represents SWEPCO's avoided cost of capacity, the Company's
20 current avoided cost of capacity is far lower than the amount proposed by Ms. LaConte.
21 For example, SWEPCO currently forecasts that it will have excess capacity on its system
22 until at least 2024, so the Company's current avoided cost of capacity is very low, with or
23 without the Wind PPAs.⁸ Moreover, as shown in Table 1 below, SWEPCO's forecast of
24 the market price of capacity in SPP is \$9.13/kW-year over the next ten years, which is far

⁶ See PUC Docket No. 44941 Final Order and Unanimous Stipulation.

⁷ See LaConte Direct, page 24; and PUC Docket No. 44941, Final Order (August 25, 2016); PUC Docket No. 26195, Order at 7-8 (May 28, 2004); PUC Docket No. 27035, Order on Rehearing at 5-6 (Jun. 3, 2005); and PUC Docket No. 29408 Order at 14-15 (April 5, 2005).

⁸ See Attachment SN-CR-2, Forecast of Capacity Requirements from SWEPCO's 2019 IRP.

1 lower than the \$6.58/kW-month (\$78.96/kW-year) avoided capacity cost estimate used for
2 Ms. LaConte's imputed capacity adjustment.

3
4 **Table 1**
5 **SWEPCO Forecast of Market Capacity Prices in SPP⁹**
6

	<u>SPP Central (\$/MW-day)</u>	<u>\$/KW-yr</u>
2021	\$25.00	\$9.13
2022	\$25.00	\$9.13
2023	\$25.00	\$9.13
2024	\$25.00	\$9.13
2025	\$25.00	\$9.13
2026	\$25.00	\$9.13
2027	\$25.00	\$9.13
2028	\$25.00	\$9.13
2029	\$25.00	\$9.13
2030	\$25.00	\$9.13

7
8
9 **Q. PLEASE SUMMARIZE YOUR CONCLUSIONS AND RECOMMENDATION**
10 **REGARDING TIEC'S IMPUTED CAPACITY PROPOSAL?**

11 A. While I generally agree with the concept of imputing capacity value to wind energy
12 contracts in certain cases, Ms. LaConte's proposed imputed capacity cost adjustment for
13 SWEPCO's Wind PPAs is based on an unreasonably high \$78.96/kW-year estimate of the
14 Company's avoided cost of capacity. SWEPCO currently has excess capacity on its system
15 and forecasts that the cost of capacity available for purchase within SPP will be below
16 \$10/kW-year for the next ten years. For these reason, I recommend that the Commission
17 disallow Ms. LaConte's proposed imputed capacity adjustment.

18 **Q. DOES THAT CONCLUDE YOUR SURREBUTTAL TESTIMONY?**

19 A. Yes.
20

⁹ See Attachment SN-CR-3, Forecast of Market Capacity Prices from SWEPCO's 2019 IRP.

**SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415**

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CROSS-REBUTTAL TESTIMONY AND ATTACHMENTS

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ATTACHMENT SN-CR-1

Excerpt from PUC S.R. 25.281

CHAPTER 25. SUBSTANTIVE RULES APPLICABLE TO ELECTRIC SERVICE PROVIDERS.

Subchapter H. ELECTRICAL PLANNING.

DIVISION 2. ENERGY EFFICIENCY AND CUSTOMER-OWNED RESOURCES.

Characteristics of New Central Station Electricity Generating Technologies associated with EIA's Annual Energy Outlook. If EIA cost data that reflects current conditions in the industry does not exist, staff may establish an avoided cost of capacity using another data source.

- (ii) If the EIA base overnight cost of a new conventional or an advanced combustion turbine, whichever is lower, is less than \$700 per kW, the avoided cost of capacity shall be \$80 per kW-year. If the base overnight cost of a new conventional or advanced combustion turbine, whichever is lower, is at or between \$700 and \$1,000 per kW, the avoided cost of capacity shall be \$100 per kW-year. If the base overnight cost of a new conventional or advanced combustion turbine, whichever is lower, is greater than \$1,000 per kW, the avoided cost of capacity shall be \$120 per kW-year.
- (iii) The avoided cost of capacity calculated by staff may be challenged only by the filing of a petition within 45 days of the date the avoided cost of capacity is filed in the commission's central records under the control number for the energy efficiency implementation project described by paragraph (2)(A) of this subsection. The petition must clearly describe the reasons commission's staff's avoided cost calculation is incorrect, include supporting data and calculations, and state the relief sought.
- (B) A utility in an area in which customer choice is not offered may petition the commission for authorization to use an avoided cost of capacity different from the avoided cost determined according to subparagraph (A) of this paragraph by filing a petition no later than 45 days after the date the avoided cost of capacity calculated by staff is filed in the commission's central records under the control number for the energy efficiency implementation project described by paragraph (2)(A) of this subsection. The petition must clearly describe the reasons a different avoided cost should be used, include supporting data and calculations, and state the relief sought. The avoided cost of capacity proposed by the utility shall be based on a generating resource or purchase in the utility's resource acquisition plan and the terms of the purchase or the cost of the resource shall be disclosed in the filing.
- (3) The avoided cost of energy shall be established in accordance with this paragraph.
 - (A) By November 1 of each year, ERCOT shall file the avoided cost of energy for the upcoming year for the ERCOT region, as defined in §25.5(48) of this title (relating to Definitions), in the commission's central records under the control number for the energy efficiency implementation project. ERCOT shall calculate the avoided cost of energy by determining the load-weighted average of the competitive load zone settlement point prices for the peak periods covering the two previous winter and summer peaks. The avoided cost of energy calculated by ERCOT may be challenged only by the filing of a petition within 45 days of the date the avoided cost of capacity is filed by ERCOT in the commission's central records under the control number for the energy efficiency implementation project described by paragraph (2)(A) of this subsection. The petition must clearly describe the reasons ERCOT's avoided cost of energy calculation is incorrect, include supporting data and calculations, and state the relief sought.
 - (B) A utility in an area in which customer choice is not offered may petition the commission for authorization to use an avoided cost of energy other than that otherwise determined according to this paragraph. The avoided cost of energy may be based on peak period energy prices in an energy market operated by a regional transmission organization if the utility participates in that market and the prices are reported publicly. If the utility does not participate in such a market, the avoided cost of energy may be based on the expected

§25.181-7

effective 04/04/19
(P 48692)

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ATTACHMENT SN-CR-2

**Forecast of Capacity Requirements
From SWEPCO's 2019 IRP**

Attachment SN-CR-2

SOAH Docket No. 473-21-0538
PUC Docket No. 51415
CARD's 1st, Q. # CARD 1-12
Attachment 1
Page 14 of 202



2019 Integrated Resource Plan

Summary of SWEPCO Resource Plan

SWEPCO's retail sales are projected to grow at 0.2% per year with stronger growth expected from the residential class (+0.5% per year) while the commercial class experiences a modest decrease (-0.1% per year) and the industrial class experiences modest increases (0.2% per year) over the forecast horizon. The projected change in SWEPCO's internal energy over the next 20 years is for requirements to increase by 0.3% per year. Finally, SWEPCO's peak demand is also expected to increase at an average rate of 0.3% per year through 2039.

Figure ES- 1 below shows SWEPCO's "going-in" (i.e. before resource additions) capacity position over the planning period. In 2030, SWEPCO anticipates experiencing a 167MW capacity shortfall which then grows to approximately 1,600MW shortfall by 2038.

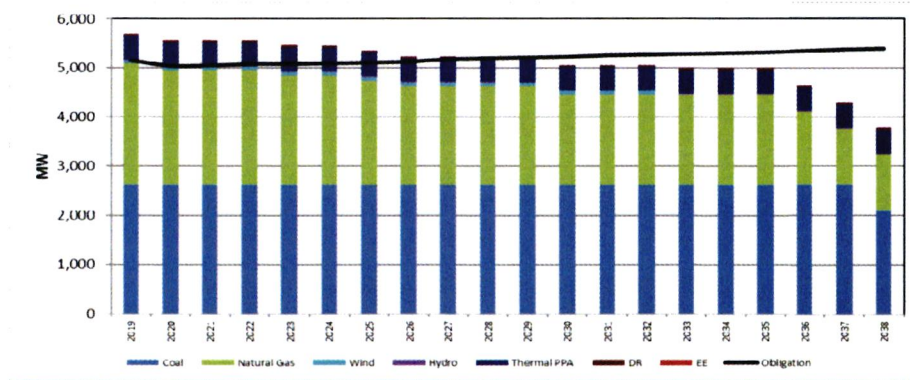


Figure ES- 1: SWEPCO "Going-In" SPP Capacity Position

To determine the appropriate level and mix of incremental supply and demand-side resources required to offset such going-in capacity deficiencies, SWEPCO utilized the *Plexos*® Linear Program (LP) optimization model to develop a "least-cost" resource plan. Although the IRP planning period is limited to 20 years (through 2038), the *Plexos*® modeling was performed through the year 2048 so as to properly consider various cost-based "end-effects" for the resource alternatives being considered.

SWEPCO used the modeling results to develop a Preferred Plan or "Plan". To arrive at the Preferred Plan, using *Plexos*®, SWEPCO developed optimal portfolios based on five long-term

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PUC DOCKET NO. 51415**

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SCOTT NORWOOD

ATTACHMENT SN-CR-3

**Forecast of Market Capacity Prices
From SWEPCO's 2019 IRP**

SWEPCO's Capacity Price Forecast
(Source: Response to CARD 7-6)

	<u>SPP Central (\$/MW-day)</u>	<u>\$/KW-yr</u>
2021	\$25.00	\$9.13
2022	\$25.00	\$9.13
2023	\$25.00	\$9.13
2024	\$25.00	\$9.13
2025	\$25.00	\$9.13
2026	\$25.00	\$9.13
2027	\$25.00	\$9.13
2028	\$25.00	\$9.13
2029	\$25.00	\$9.13
2030	\$25.00	\$9.13

SOAH DOCKET NO. 473-21-0538
PUC DOCKET NO. 51415

SOUTHWESTERN ELECTRIC POWER COMPANY'S RESPONSE TO CITIES
ADVOCATING REASONABLE DEREGULATION'S SEVENTH SET OF REQUESTS
FOR INFORMATION

Question No. CARD 7-6:

Please provide SWEPCO's current estimate of purchased capacity prices (\$/KW-month or year) as used for the Company's most recent IRP.

Response No. CARD 7-6:

Please see CARD 7-6 Attachment 1.

Prepared By: Mark A. Becker

Title: Mng Dir Res Plnning&Op Anlysis

Prepared By: Joseph S. Perez

Title: Forecast Analyst Prin

Sponsored By: Scott E. Mertz

Title: Regulatory Consultant Staff

SPP Central (\$/MW-day)

2021	25.00
2022	25.00
2023	25.00
2024	25.00
2025	25.00
2026	25.00
2027	25.00
2028	25.00
2029	25.00
2030	25.00
2031	25.00
2032	25.00
2033	25.00
2034	25.00
2035	25.00
2036	25.00
2037	25.00
2038	25.00
2039	25.20
2040	31.57
2041	38.79
2042	46.90
2043	55.91
2044	65.86
2045	76.78
2046	109.05
2047	150.93
2048	192.88
2049	234.90

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**WORKPAPERS
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	SPP_Central (\$/MW-day)	<u>\$/KW-yr</u>
2019	28.48	\$10.40
2020	25.00	\$9.13
2021	25.00	\$9.13
2022	25.00	\$9.13
2023	25.00	\$9.13
2024	25.00	\$9.13
2025	25.00	\$9.13
2026	25.00	\$9.13
2027	25.00	\$9.13
2028	25.00	\$9.13
2029	25.00	\$9.13
2030	25.00	\$9.13
2031	25.00	\$9.13
2032	25.00	\$9.13
2033	25.00	\$9.13
2034	25.00	\$9.13
2035	25.00	\$9.13
2036	25.00	\$9.13
2037	25.00	\$9.13
2038	25.00	\$9.13
2039	25.20	\$9.20
2040	31.57	\$11.52
2041	38.79	\$14.16
2042	46.90	\$17.12
2043	55.91	\$20.41
2044	65.86	\$24.04
2045	76.78	\$28.02
2046	109.05	\$39.80
2047	150.93	\$55.09
2048	192.88	\$70.40
2049	234.90	\$85.74

Source: CARD 7-6, Attachment 1